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IMPERFECT INFORMATION AND THE TENDER OFFER AUCTION

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SOCIAL SCIENCE WORKING PAPER 566

April 1985

ABSTRACT

Managers of companies for which takeover bids have been or are likely to be made--"targets"--engage in a variety of tactics designed to minimize the likelihood of a takeover or increase the price an acquirer must ultimately pay. The welfare effects of these tactics are in dispute. This paper considers one such tactic, the running of "auctions" by managers of a target after an initial bid has been made; an auction is held if, as is often the case, the target's managers can interest other companies in bidding. This paper argues that auctions reduce welfare because they dampen search for suboptimally run firms, and do not have a comparative advantage over unregulated markets in moving corporate assets to their highest valued uses. Further, the shareholders of targets do not have property rights to the gains from takeovers that auctions could be viewed as protecting. Hence, the law that now permits auctions to occur should be changed.

April 2, 1984

Imperfect Information and The Tender Offer Auction

Alan Schwartz*

Shareholders want corporate managers to maximize share values but the managers have discretion whether to maximize or not over a range of business outcomes. This discretion exists because the costs to shareholders of observing manager behavior often exceed the gains, and because contracts conditioning manager rewards only on corporate outcomes cannot ensure maximizing behavior.[1] Markets for corporate control and for managerial services may create incentives for managers to maximize. Managers who do not could be displaced by takeovers, which are made possible because shares of companies run suboptimally sell below "true" values. Also, managers whose corporations perform badly may suffer reputational losses. The latter sanction operates independently of government conduct but the former depends importantly on the rules. For example, a company for which a bid has been made -- the "target" -- possibly could defeat a takeover if the law permits it to merge with a competitor of the bidder -- the "acquirer"-- for then the target could claim that the takeover would violate the antitrust laws. Most commentators agree that such "defensive tactics" should be banned.[2] This paper considers a more controversial state response to actions by target managers, prohibiting the running of auctions after an initial bid has been made. An auction is

held when target management oppose the initial bid and can interest other companies in bidding. To prohibit an auction is actually to permit the initial bidder to set a time limit for target shareholders to respond to its offer that is too brief to permit the target's management to find other bidders. Current law now permits auctions because it requires bids to be kept open for relatively long time periods and also requires firms that have taken substantial positions in potential targets promptly to disclose these positions.[3] Such prompt disclosure may give target managements time to arrange auctions. Only two legal commentators, Professors Easterbrook and Fishel, urge a prohibition of auctions.[4] This paper adds a third voice.

Easterbrook and Fishel state "the basic case" against auctions. Some firms search for and acquire mismanaged companies because a successful searcher can earn the difference between the "maximizing price," the price for which the target's shares will sell once it is run to maximize, and the target's lower current market price, which reflects its suboptimal performance. An auction shrinks the difference between these two prices because other firms will overbid initial offers that are close to the low current price. Consequently, auctions reduce the returns to search for mismanaged companies; the less search there is, the less effective is the takeover sanction in causing managers to maximize share values. Hence, auctions are inefficient.

The case for auctions begins with the obvious fact that to prohibit them is to reduce significantly the price target shareholders receive when takeovers occur. The case then rests

on three loosely connected claims.[5] First, although auctions may reduce search for mismanaged companies, they do not reduce it below desirable levels, or their effect in this respect is ambiguous. Second, auctions help move target assets to their highest valuing users, and thus create efficiency gains to be set against the doubtful efficiency losses that auctions create. Third, target shareholders have a property right to participate in the gains that a takeover makes possible. Without auctions, the target shareholders would capture only a small part of these gains; thus, auctions help protect shareholder rights.

That plausible arguments apparently exist on both sides of the auction issue is partly a function of the terms in which the debate has been conducted. Though the issue poses a problem in the economics of search, no debate participant has used search equilibrium theory to illuminate the question how search for targets actually influences manager behavior. Part I below creates a model that attempts to do this. The model identifies several factors that correlate positively with the likelihood that managers will maximize, and that the state also can influence. Respecting search, the model shows that auctions unambiguously reduce the gains to search for mismanaged targets, and thus unambiguously reduce the likelihood that corporate managers will maximize share values. Part I goes on to argue that the model's conclusions are robust to the relaxation of its more important assumptions and concludes by attempting to refute the informal arguments respecting search that auction proponents make.

Part II next shows that auctions could help move target assets to their highest valued uses only in a limited set of potential takeovers, those for synergy purposes (appropriately defined). The claim that auctions actually perform this function in synergy acquisitions, however, rests on dubious assumptions that auction proponents have neither articulated nor defended. To expose these assumptions is to call them seriously into question. Thus there is no reason now to believe that auctions have a comparative advantage over unregulated markets in moving corporate assets to their highest valued uses.

Part III next argues that target shareholders have no property right to share in the gains that takeovers create. Rather, these shareholders are entitled only to the value of their shares had no bid been made. Since tender offers give them more than this, a rights claim cannot support the case for auctions. Part IV then makes concluding remarks and speculates briefly about the legality of now common amendments to corporate charters and bylaws, that also may reduce the frequency of takeovers.

This paper thus concludes that the basic case against auctions is correct when formally evaluated in an imperfect information setting, but the conclusion should be regarded as preliminary. Little work has been done relating search equilibrium theory to markets for corporate control; the model in Part I is the first to incorporate this theory into the tender offer debate, and then in relatively primitive fashion. Therefore, the paper's more firmly grounded conclusion is that

the burden of persuasion should shift. Auction proponents must now show that their claims are sustainable in the more richly described world discussed below.

I. A Takeover Model

A. The Model[6]

Entrepreneurs bring "products" to market. These products are partly constituted by a project -- a plan to earn money -- and a firm -- a set of proposed contracts between the entrepreneurs and potential capital suppliers. The market for these products is competitive, so that each set of entrepreneurs is compelled to propose contracts that minimize agency costs for its firm.[7] The product aspects just described are a search good; potential investors can observe the plans for projects and the sets of contracts.[8] The products, however, have an experience aspect. As agency costs cannot be reduced to zero, the entrepreneurs, who become or hire managers, may not cause the share values of their ongoing firms to be maximized. The commitment to maximizing share values constitutes the experience aspect; an investor who buys stock in a firm must wait to see. Later, the managers of at least some firms fall from grace, and will not maximize the share values of their firms unless the market compels them to. I shall shortly discuss what "compelled" means. Some firms that are not maximizing share values will disappear through takeover or attrition, but entrepreneurs continuously come to market with new products, so a "continuous

flow" exists. This paper's concern is with a slice of time within the flow, in that it asks what would compel managers who have fallen from grace to maximize share values.[9]

Before reaching this question, it will be helpful to ask how the failure to maximize is troublesome. Let N firms exist, each of which has a set of managers who decide what it does, and a set of shareholders who are largely passive. The shareholders may sell stock if a bid is made to them. The managers, for simplicity, are assumed to be risk neutral; they maximize expected lifetime earnings. If this preference leads them not to maximize share values, they may act in either of two ways: First, maximize the total wealth that their firms' assets can generate but devote a substantial portion of this wealth to themselves in the form of perks and salary. Share values would then be lower than had the managers not "skimmed." This strategy does maximize firm wealth but could be inefficient because the lowered share values may dampen investment in particular industries below socially optimal levels. Also, if managers are overcompensated, there may exist an excessive supply of managers. Second, maximize neither share values nor firm wealth. This strategy obviously is inefficient because it reduces the total wealth available to society. Since one strategy that fails to maximize share values is inefficient and the other strategy is probably so, I suppose that the state's goal, cet. par, should be to cause managers to act optimally.

If the managers do maximize, they earn s* per year forever (until retirement). If they do not, they earn more, $\tilde{s}$, but their

companies may be taken over because share values are lower than when the managers maximize. After a takeover, the nonmaximizing managers lose their jobs and get other jobs, earning $\bar{s}$, where $\bar{s} < s^* <$ Hence, the managers' expected utility can be written: $E_m(U) = f(s,r,\chi)$ where r is the managers' discount rate and χ is the probability that a nonmaximizing manager will lose his job. The discount rate is exogeneous and assumed identical for all managers. This way of viewing the firm supposes shareholders to have no control over manager conduct, an assumption that is relaxed somewhat below.

If the managers maximize, the firm's stock sells at p*; if they do not, the stock sells at $p < p^*$. Both prices accurately reflect the firm's expected earnings under current management. The market cannot infer a failure to maximize from the nonmaximizing price alone, unless p falls so far that the existence of suboptimal behavior is obvious. What is meant here is that the semi-strong form of the efficient market hypothesis holds, while the failure of managers to maximize, unless grave, is "insider information."[10] By "grave" is meant that an observer of the firm can at zero cost -- really very low cost --know the true facts. Call this limiting lower share price $\bar{p}$. The managers thus know that if they allow price to fall to $\bar{p}$, they are certain to be ousted by another firm or their own shareholders. In consequence, managers who choose not to maximize may allow share prices to fall to $\bar{p} + e$, where $e > 0$; such a price is called L. Also, there is a premium above the firm's current market price that would induce the shareholders to

sell to a takeover bidder. Let this premium be $\emptyset$.[11]

A firm's managers may then pursue either of two non-maximizing strategies. First, they could cause share prices to fall by $p^* - p < \emptyset$. Then $p^* - (p + \emptyset) < 0$, so that an acquirer which paid the premium above the target firm's market price necessary to induce the shareholders to tender -- $\emptyset$ -- would earn negative returns. This is the safe strategy because it ensures that no takeover bids would be made. The managers also could cause share values to fall to L. This is the risky strategy because then $p^* - (L + \emptyset) > 0$; that is, a mismanaged firm will always be desirable to one who discerns the mismanagement because a buyer could earn positive returns. Managers who choose the risky strategy thus are likely to profit only if no one finds out. The risky strategy is assumed always to generate greater returns for managers than the safe strategy for two reasons. First, it justifies the problem. Were the assumption otherwise, the threat of a takeover never could check manager behavior, yet most believe that takeovers may perform a checking function. To take this belief seriously implies the assumption that nonmaximizing managers always -- or at least very often -- choose the risky strategy. Second, the demand elasticity for shares is very high. Thus, in an unregulated market the premium necessary to induce tender may be low. Since the nonmaximizing strategy is safe only when $p^* - (p + \emptyset) < 0$, when $\emptyset$ is low the inequality cannot hold unless p is very close to p^*. This implies that the outcomes of the safe strategy approximate the outcomes of the maximizing strategy. Therefore, manager failure to maximize

pursuant to the safe strategy poses policy problems too slight to discuss. And for these two reasons I suppose that managers either maximize or pursue the risky strategy.

There also exists a subset of firms in N, called A, who are looking for other firms to buy. Each member of A can, at a cost c, learn whether a firm in N is being run suboptimally; that is, a mismanaged firm is a search good in that the firm's true value - p^* - is revealed to whomever pays the "fee." The firms in A can be partitioned according to their search behavior. First are "casual searchers"; these are firms that do not have an acquisitions program but periodically analyze other firms in their environment to see whether a "bargain" -- a mismanaged firm -- exists. Casual searchers will buy bargains. Second are "synergy searchers." Synergy acquisitions are illustrated by horizontal, vertical or product extension mergers. The idea is that two particular firms will do better combined than each would do separately. Hence, a given firm that actually does maximize share values remains a target for a limited set of other firms that can be synergistically combined with it. This latter set of firms are the synergy searchers, but it is assumed that they also will pick up a bargain if their evaluations reveal one. Finally, some firms in A are searching specifically for bargains. The firms in A can be partitioned in a second way. Some of them, primarily the casual searchers, take one draw per period; they evaluate only one other firm to see whether a bargain or a synergy partner exists. Other firms in A take $n \geq 2$ draws per period. Call the former set of firms A_1 and the latter A_2 where

$A_1 + A_2 = A$.

The firms in A do not necessarily maximize their own share values. Firms that fail to maximize still make products, sell services and so forth, and they may also search for and purchase other firms that are run suboptimally. A searcher, whether or not it maximizes its own share values, may engage in a variety of post-acquisition conduct that could justify search. For example, the searcher may want to increase the wealth that a nonmaximizing target can generate just to skim it, to sell such a target to a firm which will maximize its value, to maximize a target's share values itself, or for other reasons.

The law that obtains is initially assumed to be pre-Williams Act; acquirers can keep tender offers open for as short a time as they please, and need not reveal positions they have taken in potential targets. To isolate the effect of auctions, it also is assumed that managers cannot use defensive tactics. Hence, the managers of a firm in N know that if the search of a firm in A reveals their firm to be run suboptimally, the searcher will buy it. The probability that a nonmaximizing firm will be found is

$$\frac{A_1}{N} + \frac{nA_2}{N} = \chi.$$

Managers do not know that their firms have been searched unless a bid is made. Thus, from their point of view, in a several period framework, $\chi_i = \chi_j$ for all i,j and χ_i, χ_j are independent.

Recall that the shareholders are assumed to tender if they are offered at least L + Ø, and successful searchers always buy. Thus, the only decisionmakers in this world are the

managers of firms in N. They will maximize or not, depending on which strategy yields the highest lifetime earnings. Let E(Y)a be the expected earnings from maximizing. A manager who maximizes will earn s* forever. Thus

$$(1) \quad E(Y)a = s^*/r.$$

Let E(Y)b be the expected gain from not maximizing. To calculate E(Y)b see that the probability of being caught in period one is χ and of being caught in period two is $(1 - \chi)\chi$ and so forth. If the manager is caught in period one, he earns $\bar{s}/r$ forever; if he is caught in period two, he earns $\tilde{s} + \bar{s}/r(1 + r)$.
Thus:

$$(2) \quad E(Y)b = \sum_{1}^{\infty} [(1 - \chi)^{i-1}\chi] \left[\frac{\tilde{s}}{(1+r)} + \frac{\tilde{s}}{(1+r)^2} + \ldots \frac{\tilde{s}}{(1+r)^{i-1}} + \frac{\bar{s}}{r(r+1)^i}\right]$$

The managers will maximize if (1) > (2).

Comparing (1) and (2) initially shows that manager discount rates are important. For a sufficiently low discount rate, equation (1) will exceed equation (2). However, (1) - (2) decreases monotonically with increases in r, so that, as the footnote shows, for a sufficiently high discount rate, (2) > (1) -- the managers will not maximize.[12] Intuitively, if the present is much more important to managers than the future -- a high r --, they will weight present returns more heavily than future

returns, and so be more likely to choose $\tilde{s}$, the return from the nonmaximizing strategy. Conversely, if managers care about the future (r is low), they will prefer to ensure themselves a relatively high income -- s* -- forever.

To perceive the other lessons, suppose a one period framework, in which discount rates can be ignored. For one period, the gain from maximizing is s* and from not is $(1 - \chi)\bar{s} + \chi\bar{\bar{s}}$. Thus, we get

(3) Max iff $s^* \geq (1 - \chi)\bar{s} + \chi\bar{\bar{s}}$.

This says that the probability of maximizing is higher if $\tilde{s}$ is not very much greater than s*, if s* is large relative to $\bar{s}$ and if χ is high. Therefore, managers are more likely to maximize share values if (a) their discount rates are low; (b) there are few perks to consume ($\bar{s}$ is close in value to s*); (c) the consequences to managers of being found out are serious (s* is much bigger then $\bar{s}$); (d) the probability of managers being ousted from office if they fail to maximize is high (considerable search occurs); and (e) managers are risk averse. Respecting (e), the analysis assumed risk neutrality, but risk aversion obviously implies a greater probability of maximizing behavior; a maximizing strategy reduces the variance in managers' returns, for they earn s* forever rather than $\bar{s}$ for an uncertain period and then perhaps $\bar{\bar{s}}$.

This analysis supports several public policy recommendations. The state cannot affect (e) in a straightforward way but can influence the other four factors more or less directly. It has considerable control over expected future interest rates. Assuming well-functioning capital markets, lower

expected interest rates imply lower subjective manager discount rates at the margin. Thus, a macro policy of lowering interest rates has the additional benefit of increasing the likelihood that managers will maximize share values. Respecting factor (b), the state can increase the taxation of perks. This is likely to reduce $\bar{s} - s^*$ more than it will reduce $s^* - \tilde{s}$, holding L fixed; if so, the likelihood that managers will maximize again is increased. As regards factor (c), golden parachute contracts cushion the consequences to nonmaximizing managers of being found out; they increase $\bar{s}$ relative to s* and so decrease the likelihood that managers will maximize. Therefore, such contracts should be held unenforceable.[13] Finally, the state may wish to increase and certainly would not wish to reduce χ because the likelihood of being found out correlates positively with the likelihood that managers will maximize share values.

The search issue deserves more consideration. Above, I assumed a fixed sample size search strategy where the sample sizes were exogeneously set. Now I want to consider what may influence the samples, and also relax the legal assumptions. Search here is analogous to drawing balls from an urn: a firm in A takes one or n draws from N, buying if a firm "drawn" is such that $p^* - (L + \emptyset) > 0$. Let each searcher believe the probability of getting such a firm on one draw to be θ where θ is assumed identical for all firms in A. Hence, the probability that a searcher will find a mismanaged firm in n draws is $\theta[1 + (1-\theta) + 1-\theta)^2 + \ldots (1-\theta)^{n-1}]$, which is called μ.[14] Here θ is a function of the actual distribution plus noise; that is, each searcher has a prior belief

that is related to but is not coextensive with the actual distribution of firms in N. Also, let λ be the probability that the first searcher that finds an undervalued firm buys it. Above, λ necessarily equalled one because, given large numbers, it would be unlikely for two searchers to find the same mismanaged firm at once, and because the managers were assumed barred from using defensive tactics. If auctions are permitted, the first searcher may not prevail. Should the managers of a target publicize the initial bid, other firms in A will then know that a nonmaximizing firm has been found, and may abandon their random draw search strategy to bid for it. With several bidders it could be that $\lambda < 1$. Also, let c(n) be the cost function for search, where c'(n) and c"(n) > 0. Search costs include the cost of finding firms to evaluate and of evaluating them -- the c above. If a searcher can buy for its original bid, its gain gross of search costs is of course $p^* - (L + \emptyset)$.

There now are two cases to consider. First, suppose, as above, that the law is pre-Williams Act and defensive tactics are banned. Let E(G)n be the net expected gain to search for a firm in A. Then,

$$(4)\quad E(G)n = \sum_{H=1}^{n} \mu_H^n H \cdot \partial Z(p^* - (L + \emptyset)) - c(n).$$

where H is the number of mismanaged firms revealed in n draws, μ_H^n is the probability of finding H firms, Z is the total number of each target's shares and ∂ is the fraction of such outstanding shares that the searcher intends to purchase.[15] Searchers set .5

$< \partial \leq 1$. Next suppose that, if the same searcher finds a mismanaged firm, an auction will be conducted. If the original bidder loses, it can sell any shares it acquired to the winner. Let the losing bidder acquire αZ shares where $0 < \alpha < .5$. An auction will produce a final bid price that is higher than the original price $(L + \emptyset)$, for the original price presumably is the lowest price at which the shareholders can be induced to tender. Let p' be the price at which the winner buys. Then if E(G)a is the net expected gain to search when auctions are permitted,

$$(5)\quad E(G)a = \sum_{H=1}^{n} \mu_H^n H \left\{\lambda[(\partial-\alpha)Z(p^* - p') + \alpha Z(p^* - (L + \emptyset))] + (1 - \lambda)\alpha Z(p' - (L + \emptyset))\right\} - c(n)$$

The term in brackets that λ multiplies is the gain to the original bidder if it wins the auction; the term that $(1 - \lambda)$ multiplies is the gain to the bidder if it loses the auction but sells its shares to the winner.[16] If (4) > (5), then the net expected gain to search is higher when no auctions are permitted. In making this comparison, the cost of search drops out as it is identical in both (4) and (5). Also, the μ term drops out as it multiplies everything but the cost function in both equations. It is convenient to rewrite (4) and (5) without these terms.

$$(4)'\quad (\partial - \alpha)Z(p^* - (L + \emptyset)) + \alpha Z(p^* - (L + \emptyset))$$

$$(5)'\quad \lambda[(\partial - \alpha)Z(p^* - p')] + \alpha Z(p^* - (L + \emptyset))$$

The second term is identical in (4)' and (5)' and can be ignored. Let $p' = p^*$; the auction, suppose, forces price to the value the target would have had if its managers maximized share values. Then the first term in (5)' goes to zero while the first term in (4)' remains positive, so that (4)' > (5)'. Hence, (4) > (5). This is unsurprising because (4) represents the value to the original bidder of owning more than half of a firm bought at only $L + \emptyset$ while, supposing $p' = p^*$, (5) reflects the value to this bidder of owning less than half of a firm bought at this price and owning the remainder at no net gain at all, if it is actually purchased.

The assumptions above imply that $p' = p^*$ because they hold that bidders can recognize mismanaged firms at an acceptable cost. Thus, all participants in an auction will know p^* and the auction price must then equal p^* in equilibrium; in financial markets, all acquisitions have zero net present value if information is perfect.[17] Therefore, (4) > (5); the net expected gain to search is unambiguously higher under a no auction rule. Consequently, the auction rule reduces χ -- the probability that a nonmaximizing firm will be found; this is contrary to the policy recommendation above. We therefore have a more precise policy recommendation: if the object is to increase the likelihood that managers will maximize, the state should prohibit auctions.

Though the focus here is on auctions, the analysis also provides another reason to question the legality of defensive

tactics. Consider equation (4) and suppose that auctions are not allowed but defensive tactics are. Then, the first term in (4) must be multiplied by $\lambda < 1$. This is because the ability of target managers to use defensive tactics reduces to below one the probability that the first searcher to find a mismanaged target will buy it. Hence, defensive tactics also reduce the expected gain to search. These tactics thus should be disallowed unless they have positive features. That issue is beyond this paper's scope, except to say that such features are not readily apparent.

Some analysts ask explicitly about the welfare of target shareholders. This inquiry may seem unnecessary given the assumption above that, if all managers maximize, social wealth is greater than if some or many do not. The state's only goal then apparently should be to promote the coming into existence, or to ensure the continuance, of maximizing equilibria, unless it should prefer the interests of those advantaged by a reduced likelihood of maximizing equilibria to the welfare of society. This preference cannot be justified on utilitarian grounds. Without an auction, the acquirer's shareholders keep the entire gain $p^* - (L + \emptyset)$; with one, the gain goes to the target's shareholders. There is no reason to suppose that utility will be greater one way or the other. Indeed, given that persons often hold diversified portfolios, the two shareholder groups actually could overlap. The only other group disadvantaged by a prohibition of auctions are the managers who will not maximize, for the prohibition increases the risks to them of pursuing that strategy; but there is no reason to count the managers' interests

because they are acting improperly. Since no actor in this world deserves a distributional preference, a utilitarian analysis implies that the state should attempt only to make the social pie as large as possible. To do this is to prohibit auctions. We shall later ask whether target shareholders have a property right that this prohibition would infringe, but for now a little more can be said about the economics.

The model seemingly predicts two equilibria, one in which all firms maximize and one in which none do; for when χ is too low to induce maximizing each manager will find it optimal not to maximize. It may be, though, that a distribution of maximizing and nonmaximizing firms could exist because of the model's other parameters. For example, if discount rates were to differ across managers, the same amount of search could cause some to maximize but not others. Also, if risk aversion differs across managers, again the same amount of search could cause some of them to maximize but not others. Finally, the model supposed all managers to be competent; they always could cause their firm's share values to equal p^*. Some managers may be incapable of maximizing, however, so that even were χ large enough to induce maximizing, a few firms could sell at $p < p^*$. Hence, it is possible for a distribution to exist in equilibrium, in which some firms maximize but others do not; this idea deserves more consideration than it receives above.

In addition, an equilibrium in which no firms maximize seems less stable than one in which all firms do. If no firms maximize, the true probability of a searcher drawing a

nonmaximizing firm goes to one. Since the subjective probability, θ, that searchers assign to finding such a firm is assumed to be partly a function of the true distribution, when search <u>always</u> produces gains, the perceived expected gain to search should also rise and more search will be induced. This could drive χ high enough to induce maximizing manager behavior. On the other hand, were all firms to maximize, the existence of at least some firms who are always searching -- the synergy and casual searchers -- could keep χ high enough to ensure the maintenance of a maximizing equilibrium. That some firms always do search also seems consistent with the evidence.

The model is far from ideal, however, because it is difficult to apply to actual markets. To see why, we can solve equation (3) for χ, the probability that a nonmaximizing firm will be discovered. This gives

$$(6) \quad \text{Max iff } \chi \geq \frac{s^* - \bar{s}}{\tilde{s} - \bar{s}}$$

Then, if $\tilde{s}$ = \$120,000, s^* = \$100,000, and $\bar{s}$ = \$50,000, a manager will maximize if he thinks that χ exceeds .285. Using $\chi = \frac{A_1}{N} + \frac{nA_2}{N}$, an analyst could ask whether there is enough search in the relevant market -- is $\chi > .285$? - to ensure maximizing behavior. Such a test would be hard to conduct. In particular, given that firms and managers can vary widely, finding values for $\tilde{s}$, s^* and $\bar{s}$ that have generality would be quite difficult. Also, equation (3), from which (6) is derived, is itself a simplification because it ignores manager discount rates. The correct expression

for χ includes them but they cannot be observed directly. Managers could plausibly be supposed to use market rates, corrected for the highest marginal tax bracket, but again an empirical test would yield inexact results.[18]

Therefore, the model is useful primarily to derive qualitative conclusions. For example, the state should eliminate tax deductions for corporate hunting lodges -- reduce $\tilde{s}$ relative to s^* -- and facilitate search -- increase χ -- unless good reasons exist not to do these things. Parts II and III below consider whether good reasons exist to be less concerned with search than the model suggests; Part I next considers the assumptions that underlie and some objections to the analysis of IA.

B. The Underlying Assumptions

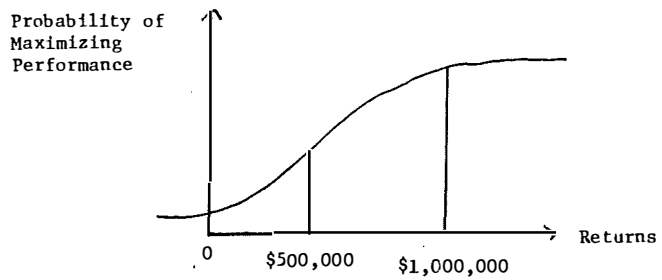
Many of the model's assumptions have been discussed but three deserve further mention, that searchers can recognize mismanaged firms, that managers are interested only in personal gain and that the efficient market hypothesis is valid. The first two are considered here, the third in Part IC. The first assumption is important to the conclusion that the market for corporate control can exert a nontrivial constraint on managerial behavior and it implies the result that auctions will force target share prices to the maximizing level, and so necessarily reduce the expected returns to search. That mismanaged firms are search goods seems plausible since the searchers often are

professionals, and audited financials together with a knowledge of the target's industry should reveal mismanagement to experts who look directly for it. Also, the two obvious ways to relax the assumption that firms are search goods do not imply different policy conclusions than those drawn above. First, firms in A could be partitioned in a third way: let there be two types, those that evaluate other firms at high cost and those that evaluate other firms at low cost. The distinction corresponds to expertise and scale economies; firms with acquisition programs might be able to evaluate at low cost while casual searchers might not. Then let firms in N be of two types, firms that can be evaluated at low cost and firms that can be evaluated at high cost, where the managers know what type of firm they are in but cannot influence their type. Let firms in A_1, who take one draw, be high cost evaluators and firms in A_2 be low cost evaluators. Then nothing changes for firms that are easy to evaluate; whether they are visited by members of A_1 or A_2, their true type will be revealed. But the probability that a firm that is costly to evaluate will be bought declines from $\frac{A_1}{N} + \frac{nA_2}{N}$ to just $\frac{nA_2}{N}$, for a casual searcher will not know such a firm's true type and thus will not bid for it. If n is small or A_2 is small relative to A_1, an equilibrium could then exist in which the easy to evaluate firms maximize but the hard to evaluate firms do not. This outcome is consistent with the conclusions reached above because it implies that the state should increase search by professionals, who are the low cost evaluators. Because professionals are relatively responsive to changes in the

expected returns to search, if this variant of the model is a plausible description of the world, it is then even less wise to permit auctions.

A second way to relax the assumption that targets are search goods is to suppose that searchers cannot know with certainty whether targets are maximizing or not but the searchers can construct probability distributions over target returns. Such a distribution, for a typical firm in a target's industry, may look like Figure I.

I.



If a searcher, after constructing the distribution, observes a potential target that earns $1,000,000 a year or more, the searcher would not bid; $1,000,000 is the most likely maximizing return for a firm in the target's class, and returns in excess of this would be highly inconsistent with suboptimal manager behavior. But the searcher would bid if it observed a return of

$500,000 because this return is unlikely to be earned by a maximizing firm. If searchers' expectations are unbiased in the aggregate -- just as many overestimate the likelihood of maximizing behavior from a given data set as understimate it -- the analysis above is unaffected: unbiased expectations imply that searchers on average bid when they should, which the model above supposed was the case. Also, the pressure on managers to maximize would be reduced below the appropriate level only if searchers were systematically pessimistic. To see why, suppose that Figure I reflects the true state of the world. A pessimistic searcher might substitute $500,000 for $1,000,000 in the Figure, and not bid for a target that had returns of $500,000 or more. No reason exists to believe that searchers are systematically pessimistic in this way. If guesses are permitted, optimism is the more likely searcher error, for searchers earn income by buying targets, not by passing targets up. Therefore, letting searchers have only probability distributions over target returns is unlikely to affect the conclusions just reached.

A formal analysis treating targets as experience goods in a search context could of course yield different conclusions, but that analysis is beyond the state of the art.[19] Also, the one formal treatment of targets as experience goods suggested a passive role for target managers, though it failed to incorporate acquirer search.[20] Thus, treating firms as search goods is justifiable for policy purposes.

The model also supposed managers to be self aggrandizing

whenever agency costs were too high to compel them to maximize. Many managers, however, may do the best for their companies that the circumstances permit, though suboptimal behavior will not be punished, just because they want to do the right thing. Also, corporations, it is claimed, sometimes reduce the negative affects of self regarding behavior by socialization processes that promote a team spirit.[21] That managers adhere to or can be socialized into norms of right conduct is consistent with the analysis above. If compliance with these norms is perfect, there will be no takeovers in the world of the model, for then the managers always maximize. To the extent that managers fall short, takeovers can play a useful role.

C. Auction Proponents and Search

Auction proponents make two arguments respecting search, that it is for undervalued rather than mismanaged companies and so is socially wasteful and that a searcher's ability to sell its shares in the target to the successful bidder implies that auctions do not necessarily reduce the extent of search.[22] Neither argument is tenable. The former takes the following form: (i) target managers attempt to maximize share values; (ii) they do maximize the wealth that their firms' assets can yield; (iii) the market mistakenly believes that some targets' assets are generating less wealth than is actually the case or will generate less wealth in the future than they in fact can; (iv) in consequence of (iii), the price of these targets' shares is lower

than the true value of the firm justifies, so that any acquirer which learned the facts about such a firm would bid for it. The second premise implies that the costs associated with takeovers -- search for undervalued firms, bidding expenses -- are a deadweight loss because no acquirer could produce more social wealth than a target's managers could. Therefore, depressing these takeover costs is desirable, which implies that the search reducing aspect of auctions also is desirable. The key premises are (iii) and (iv). To see why, let the market's estimate of future profits, embodied in current share prices, always be the best the facts permit. A potential acquirer nevertheless may believe that the market's estimate regarding a particular target is too low. A takeover bid motivated by this aberrational belief would not be wasteful in the sense at issue here; private economies rest largely on the premise that being willing to back aberrational beliefs with money yields economic progress. Rather, the undervaluation argument holds that <u>any</u> potential acquirer which learns the "truth" about a given target will bid because the market's estimate -- the aggregate beliefs of traders -- is wrong.

The model developed in PartIA analyzed search only for mismanaged companies because it supposed the semi-strong form of the efficient market hypothesis to hold. When it does, there seldom would be undervalued companies; the market's estimate generally is the most accurate one the facts permit. Hence, in the model's world searchers bid only for mismanaged targets or for those as to which they hold aberrational beliefs.

Overwhelming evidence exists to support the semi-strong form of the efficient market hypothesis.[23] Auction proponents must therefore show how their belief in the existence of undervalued targets is consistent with this evidence or refute it. Neither task has been done convincingly.

Also, the undervaluation argument entails a contradiction or rests on an implausible premise. The first assumption, that target managers try to maximize share values, implies that the managers will inform the market whenever their firm is undervalued, and the second assumption, that the company is being run optimally, implies that the facts will support the managers' story. Therefore, auction proponents must add a fifth premise, which can take either of two forms: (v)(a): The market will not believe the managers; (v)(b) maximizing managers will not inform the market of the true state of the world. The first form the fifth premise can take contradicts the fourth, that searchers bid for undervalued targets. To see why, realize that a searcher bids on the basis of its analysis of the target; that is, the facts tell the searcher that the market price is lower than the best estimate of future profitability. But if these facts can convince particular searchers they can convince the market, which is composed of the full set of potential searchers. Thus to say that the market will not believe the managers is to contradict the premise that bids for undervalued companies will be made; if the market is unconvinced, actual searchers will be unconvinced as well.[24] The second form the fifth premise can take yields an implausible story. Managers who want to maximize share values

will inform the market of the true facts unless to do so would injure their firms. This could occur if a firm knew of rich mineral deposits and was about to acquire them or if a new product that could easily be copied was close to fruition, or the like; that is, maximizing managers would keep secrets until the proper time. A proponent of the undervaluation thesis must then explain how potential acquirers routinely learn these secrets though the market does not, and so routinely bid for (temporarily) undervalued firms. This seems difficult to do. And in sum the argument that auctions are desirable because they dampen search for undervalued targets is unpersuasive because it is inconsistent with the strongly validated efficient market hypothesis, and also is either incoherent or implausible.

The second argument holds that auctions do not necessarily dampen search because firms sometimes can earn a greater return on assets invested in search when the auction option exists. This allegedly could occur when the first searcher to discover a mismanaged target takes a position in it secretly, then reveals its information and sells its position to the auction winner.[25] Since the case against auctions rests largely on their effect on search, that auctions may increase or have no effect on search vitiates the case. This second argument, however, is inconsistent with the premise that searchers maximize net expected returns. If maximizing behavior is assumed, it turns out that no searcher would prefer auctions because they always reduce returns to search.

This conclusion is best illustrated by analyzing an example

that Professor Ronald Gilson constructed to support the view that auctions do not necessarily reduce search intensity.[26] Gilson assumes that searchers do maximize profits, and supposes the case of a searcher that has spent $2,500,000 to locate a target with 1,000,000 outstanding shares selling at $50; these shares would sell at $120 were the target managed correctly. The target could be bought for $100 a share in a tender offer. The searcher buys 10% of the target at $50, the maximum it can purchase secretly. It then has two choices. It can tender for the target at $100 a share. The net return on assets invested will then be 23%, calculated as follows: the searcher owns a company worth $120,000,000 (a million shares at $120 a share) and it spent $97,500,000 ($2,500,000 on search, $5,000,000 for the first 10%, $90,000,000 for the rest). The searcher's second choice is to cause an auction to occur. Its return on assets invested in search is then 60%, calculated as follows: it earns $12,000,000 on the sale of its shares (100,000 shares at $120) and it spent $7,500,000 ($2,500,000 on search and $5,000,000 for the shares). The example is meant to show that firms sometimes can earn greater returns with auctions than without them. Consequently, some firms may specialize in finding targets and reselling them at auction rather than in taking targets over. No reason exists to believe, Gilson claims, that fewer takeovers will be attempted in this world than in a world without auctions. Since Gilson thinks that auctions have positive virtues -- they help move assets to their highest valued uses -- that their effect on search is ambiguous or positive defeats the

basic case against auctions.

Gilson's example does not support this conclusion if searchers are assumed to maximize profits. Consider his first searcher after it has found the target and taken its initial position. The $7,500,000 spent on search and the purchase of 10% is then irrelevant, being a sunk cost; the question is what the searcher should do next. It has two choices. First, it can cause an auction to occur and sell to the winner. This brings in $12,000,000. Second, it can pay $90,000,000 for 900,000 shares that will be worth $108,000,000 in its hands; purchasing the remaining 90% of the target at $100 and then owning shares worth $120 nets the searcher $18,000,000. Also, the searcher would still hold the original 100,000 shares, which would be worth $12,000,000. Thus, a searcher that facilitates an auction rather than buys the target is throwing $18,000,000 away. No profit maximizing firm would do this. Hence, no such firm would prefer auctions. To return to Gilson's example, auctions cause the option of buying the target at $100 a share in a tender offer to vanish; the searcher's only choices are to sell the 10% at $120 or buy the rest at $120, neither of which is as profitable as buying the rest at $100.[27]

Gilson's argument cannot be rescued by supposing that some firms specialize in search while others specialize in running companies. Were this so, the searchers in effect become agents for firms that would actually take over the targets; the searchers' reward is the fee the ultimate purchasers pay for the searchers' information. This fee will be higher without auctions

than with them because the principals do better when they can buy targets for less; consequently, their demand for the agents' services is greater in the no auction world. Thus, even if search for potential targets is a specialized activity, participants on the buying side of takeovers as a group do worse when auctions are permitted. Auctions therefore reduce the level of search.[28]

II. Auctions and the Highest Valued Uses of Targets

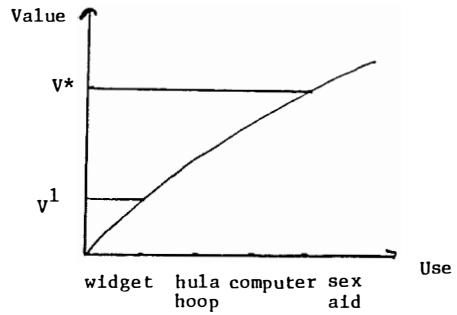
Auction proponents claim that auctions help move target assets to their highest valued uses.[29] This claim is outside the scope of the model Part IA set out. That model considered mismanaged firms: a mismanaged firm is equally valuable to all acquirers because any acquirer could maximize the firm's value and thereby earn p* less takeover costs, but could not earn more. The claim that auctions help move assets to their highest value use, in contrast, presupposes that potential acquirers value the same target assets differently. Hence, the claim applies only to synergy acquisitions, in which a target is more valuable when combined with a limited set of firms than when operated independently or by companies outside the limited set. More precisely, the argument Part II analyzes holds: (i) the managers of a potential target are maximizing its share values; (ii) nevertheless, the target's value would increase were it combined with a particular firm or firms -- its "synergy partners"; (iii) the first synergy partner to find the target usually will put it to a lower value use than the target's other synergy partners would; (iv) auctions are necessary to move the target's assets to the highest valuing of these synergy partners because initial synergy partners -- the first bidders -- seldom will resell targets to higher valuing users; (v) the state cannot distinguish, *ex ante*, between synergy acquisitions and others, so it must have one rule for all: auctions *vel non*; (vi) the efficiency gains from achieving the highest valued synergy

acquisitions outweigh whatever efficiency losses flow from the auction institution. Therefore, the state should permit auctions.

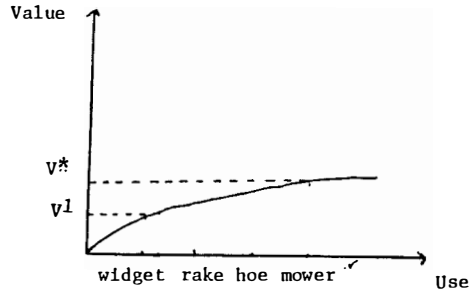
The third and fourth assumptions are crucial. To see why, let the first synergy partner to find a target also be the highest valuing user; merger with it would generate $10,000,000 in synergy gains. This partner would want to minimize the fraction of these gains going to target shareholders, and so may include only a $2,000,000 synergy premium in its takeover bid. A second firm, suppose, could generate $8,000,000 in synergy gains from merger with the target. Were an auction held, this second firm would overbid, so that the first synergy partner could not acquire the target without including at least an $8,000,000 synergy premium in its offer. The auction, however, would not transfer target assets to their highest valuing user, but rather would only redistribute wealth from acquirer to target shareholders; they gain $6,000,000 from the auction. An efficiency claim for auctions thus must presuppose first bidding synergy partners routinely to value targets less highly than other synergy partners, and suppose also that first synergy partners routinely refuse to resell to later ones. Neither assumption is plausible.

To consider the first, some pictures might be useful. The horizontal axis plots types of use to which a particular target could be put, the vertical axis the expected synergy value of a merger given each such use.

II



III



An auction proponent must believe that Figure II best describes the acquisition world, and that original bidders commonly use targets to make widgets, the lowest value use to which targets can be put. The first premise is strong. Companies ordinarily possess much firm specific physical capital and have specialized management teams. That physical and human capital ordinarily are specialized to targets implies the unlikelihood of using a particular target to generate synergy gains in a wide variety of uses. Put concretely, a potential acquirer that manufactures lawn mowers perhaps could combine synergistically with a potential target that manufactures farm equipment but not with a

target that makes drugs. Also, potential acquirers with similar plans for the target would earn similar returns from its purchase. The world, that is, looks more like Figure III than Figure II. As Figure III shows, even were first bidders routinely interested in widgets, auctions would not generate significant efficiency gains.

First bidders also seldom would care about widgets. The model in Part IA, though not formally applicable to synergy acquisitions, did show that search intensity generally is partly a function of the expected gains to search. The greater are the synergy gains from a particular type of recombination, the greater the gains to search for it. Hence, were the world to look like Figure II, more search would be conducted by potential acquirers interested in using targets to produce computers or sex aids than to produce widgets, unless "widget searchers" have significantly lower search costs. As no reason exists to believe this is so, widget searchers are unlikely to be the first bidders. If they are not, again no significant efficiency gains flow from auctions.

When a first bidder is not the highest valuing user, it could earn positive profits by reselling to this user but auction proponents claim that these resales will not be made. This is because the managers of first bidders are said to maximize size rather than profits, and obviously run larger concerns when keeping the target than when reselling it.[30] It is difficult to take this claim seriously.[31] No one who makes it has precisely put the view that firms maximize size or shown how a preference

for size is consistent with the existence of acquirers that value targets differently. Trying to do these things makes the size claim false positively, or both implausible and false normatively.

The size claim is false in fact because successful first bidders will resell in a world where all firms maximize size. To see why suppose that to maximize size is to maximize revenue rather than profits; a size maximizing firm, that is, increases output until price equals average rather than marginal cost. A target could be valued differently by a subset of such firms -- i.e., synergy could exist -- if the target would generate different revenue streams with different merger partners. For example, $5,000,000 a year in revenue would be generated were T to merge with B_1, $8,000,000 with B_2, $10,000,000 with B_3. Then, if B_1 were a successful first bidder, it would resell to B_3. This is because B_3 could make a cash payment to B_1 such that B_1 could earn at least $5,000,000 a year at the market interest rate, and B_3 would still be better off than had it not made the payment. The logic of this result applies to any maximand that B_1 and B_3 have in common, such as profits or sales: when B_1 and B_3 maximize the same thing and B_1 can get less of it from merger with the target than B_3 can, there exists a mutually attractive deal whereby B_1 would resell to B_3.

An auction proponent could rescue from falsity his claim that first bidders will not resell by assuming that first and later bidders have different maximands but this assumption also causes fatal difficulties. Let first bidders maximize revenue

while later bidders maximize profits. Then the profits that merger with a particular target would yield a later bidder might be insufficient to support a buyout of a revenue maximizing first bidder. Even so, the no resale claim is unpursuasive. First, the claim is highly implausible. Why are first bidders routinely size maximizers while second bidders are routinely profit maximizers? Second, the claim lacks generality. Sometimes a profit maximizing second bidder could buy out a size maximizing first bidder and sometimes not. There seems no way to predict the most likely outcome. Third, the claim is normatively false. If all bidders maximize profits, utility is maximized when assets move to their highest valued uses. When a first bidder maximizes revenue and a later bidder maximizes profits, and the later bidder could not make the payment necessary to induce the first bidder to resell, this must be because the first bidder derives more utility from using the target assets in the way it wants than the later bidder would derive from using those assets to satisfy its preference. Hence, utility is maximized when no resale is made. Thus an auction proponent who assumes first and later bidders to have different maximands must justify his proauction position on nonutilitarian grounds. This has not been done.

To summarize, the claim that auctions move assets to their highest valued uses can apply only to synergy acquisitions but fails as to them. This is because first bidders in a no auction world often will be in the set of highest valuing users, and if not would resell to higher valuing later bidders. Parts I and II together suggest that no efficiency defense of auctions exists.

Rather, auctions reduce welfare. Part IA also argued that no distributional case can be made for auctions. Hence, they should be altogether prohibited unless to do so would abridge the rights of target firm shareholders. Part III considers this issue.

III. Auctions and Property Rights

A subtext to the literature on Corporate Finance holds that shareholders have a right to part of the wealth that corporate recombinations create. The assumed existence of this right underlies the prohibition of the sale of corporate office, regulation of the sale of control and fairness review of two step mergers.[32] Lucien Bebchuk comes closest to articulating the rights thesis in the tender offer context: the state should ensure, he argues, "a legal framework that is intended to enable the dispersed shareholders of a potential seller to function as a sole owner would."[33] A sole owner of a target would acquire a larger portion of the wealth from a tender offer than "dispersed [target] shareholders" could because coordination costs prevent the shareholders from bargaining effectively. Auctions ameliorate this problem because the competitive bidding process permits the shareholders to "hold out" for the best offer, not be compelled to take the first one. Consequently, auctions are desirable. This argument needs a further premise because society considers the decentralized ownership inherent in the corporate form to be beneficial. Why should it create a legal regime that mimics the single owner model? The further premise is that

target shareholders have a property right to a portion of the gains from a tender offer; thus, the state should create a legal structure that in effect gives shareholders the same bargaining power as sole owners have when they receive offers for their property. This Part argues that no such right exists.

A. Substantive Sources of Rights

There are four substantive sources of rights to consider, those that may flow from contract, extracontractual expectations, notions of fairness and theories of property. Respecting contract, shareholders may facilitate auctions, in a world where the state otherwise fails to provide for them, by altering the corporate structure. For example, potential targets may give their shareholders "poison pills." A poison pill is a dividend of convertible preferred target stock that would be automatically convertible into the voting stock of an acquirer after merger, at a favorable price. Poison pills thus dilute the value of the acquirer's shares and thereby reduce the profitability of a takeover for the acquirer's shareholders. One strategy that acquirers can adopt when faced with a poison pill is to bid only if the target waives the convertability rights that the pill confers. The time requisite to negotiating over waiver, however, may permit target management to locate other bidders. Hence, target shareholders conceivably could obtain "auction prices" through contracting inter se. Whether share contracts that permit this strategy are enforceable is controversial and

remarked on briefly below. In the absence of such antitakover clauses, no contract right to auctions exists.

Extracontractual expectations cannot support a right in target shareholders to tender offer gains. As a matter of fact, these shareholders expect potential acquirers to bid as little as possible. Shareholders also expect their own officers to do as well for them as the law permits. The question, though, is whether the law should permit auctions. Shareholders may also expect "the system" to ensure them something like auction prices but such broad expectations are protected only if they are "reasonable" or "legitimate." What is reasonable or legitimate is determined by the principles or policies the state wants to pursue. Neither economic efficiency nor justice as fair distribution[34] imply that auctions are desirable. Hence, it is "unreasonable" or "illegitimate" of shareholders to expect the system to produce auctions or their equivalents unless the shareholders have a right to them. But that is the point at issue. Hence, extracontractual expectations cannot alone support a right to auctions.

General notions of fairness imply that shareholders should be treated equally. A prohibition of auctions may yield unequal treatment, but as with all equality claims an underlying norm must be presupposed; the difficulty is to identify the norm. For example, let all shareholders in a no auction world have the opportunity to offer their shares at a price of L + Ø but some do not; later, the nontendering shareholders are frozen out at L. All shareholders had equality of opportunity but the latter group

do not have equality of result. Is equality of result required? Or suppose that a potential acquirer does not want to buy all the target's shares and leaves its offer open only for five days. Shareholders who are sophisticated or who live near the acquirer have a greater chance to tender. Does this deny equality of opportunity to the rest? They could have educated themselves or had professionals manage their affairs or lived in New York.[35] Substantive and procedural equality claims, that is, are parasitic on values but the question is what are the values. Part IIIA next considers property rights theories as value sources; Part IIIB considers "procedural" sources.

Property theory recognizes four sources of rights, Lockean, utilitarian, personhood or social welfare claims and libertarianism. None support a property right in target shareholders to the gains that takeovers create. A Lockean property rights claim in a person and to a thing arises in virtue of the person participating in the creation of the thing. Target shareholders buy equity but participate in creating nothing; in particular, they do not participate in creating value from a tender offer: this is done by the acquirer. Utilitarianism assigns property rights to maximize utility. As Parts I and II above have shown, prohibiting auctions maximizes welfare; this implies that a property right which would support a claim to auctions cannot be derived from utilitarian premises. The implication could be overcome if one could plausibly show that target shareholders would derive more utility from the additional dollars an auction would give them than acquirer shareholders

would derive from these same dollars. This showing cannot be made because both sets of shareholders are likely to be in the same social classes and may even overlap; and no other reason exists to believe that target shareholders in general lose more welfare than acquirer shareholders gain. Theories of personhood provide that people may have property rights to things, such as homes or wedding rings, in which their personalities have been invested, in some meaningful sense of "invest."[36] Stock certificates, however, are the paradigm of property that is fungible rather than personal. Welfare rights theories hold that persons must possess that minimum level of goods and services necessary to enable them to lead meaningful, autonomous lives.[37] It is difficult to argue that the wealth a no auction world takes away from target shareholders ($p^* - (L + \emptyset)$ at most) is necessary to them in this sense, or rather more necessary to them in this way than it is to acquirer shareholders. Finally, libertarian property rights claims are largely parasitic on Lockean ones; when they are not (also when they are), they provide that one's property must be protected. This begs the question, which is to decide what is one's property.

In sum, target shareholders have no substantive right to a portion of the gains that takeovers create. Such a right usually cannot be derived from contract. Whether target shareholders have a legitimate expectation of participating in takeover gains or deserve equality of result regarding these gains must depend on whether they have a property right. No such right can be derived from any theory of the source of property rights that is

regarded as persuasive by anyone. If no right to takeover gains exists, no right to auctions exists, unless notions of procedural fairness require them.

B. Procedural Values and Auctions

A procedural claim would hold that the means by which corporate ownership are transferred must be fair to all affected persons and that auctions are necessary to ensure fairness. Procedural values do not exist in isolation but must be derived from the substantive goals of the relevant social institution.[38] Hence, the way to proceed is to assign goals to the markets for shares and corporate control and then to ask whether a procedural right to auctions can be derived from them. One goal for these markets is to create the largest amount of wealth for society at least cost. A second is to provide a means whereby people can realize their good through the opportunity to compete, work and create. A third is to provide a way for people to save or invest personal wealth, and so retain and enhance their ability to live as free persons. None of these goals can support a procedural right to auctions.

The first goal, to maximize net social wealth, is inconsistent with auctions. The second goal applies more to corporate managers than to shareholders, for shareholders play largely passive roles. Some persons do derive personal satisfaction from trading, but auctions seem unnecessary to the realization of satisfaction in this way. Not having auctions

shrinks by one the bundle of rights attached to share ownership but makes trading in shares no less meaningful; indeed, the prohibition may make trading more meaningful, as an end one derives happiness from pursuing, because it is more important to be on the winning side.

The third goal, to provide a means to save and invest, is a more likely candidate from which to derive a right to auctions, but the derivation ultimately fails. Suppose persons are put in an "original position," knowing neither their future endowments nor their luck. Then, a maximin strategy seemingly implies a preference for auctions: in the worse case, one will own only targets that are being run not to maximize, and one will do better, when takeover bids are made, if auctions are held. This claim is ambiguous, however, because auctions reduce the likelihood that takeover bids will be made and increase the likelihood that managers will fail to maximize; that is, auctions increase the likelihood that shareholders will be trapped in badly run companies. Is the "true" worst case a world with auctions or one without them? More seriously, at what level of abstraction is the worse case to be described? These questions reflect the difficulties of using original position analysis to justify particular rules rather than society's basic structure. Rawls himself believes the analysis should be used only for the latter purpose.[39] Further, to suppose persons in the original position to use maximin is to suppose that people are extremely risk averse. If less risk aversion is presumed, and if one has an equal chance to be any future, real person, then, as Harsanyi

points out, the rational strategy is to choose rules that maximize average utility.[40] Prohibiting auctions satisfies this strategy. Given how significant to people a society's basic structure is, a compromise strategy for persons in the original position might be to play maximin for basic structure rules and play maximize average utility for the rest. This compromise, too, justifies prohibiting auctions. Hence, the goal of providing a means to save and invest seems best pursued in a no auction world. And in sum no procedural right in target shareholders to auctions exists.

IV. Conclusion

The basic case against auctions is correct when evaluated in an imperfect information setting. Auctions reduce the returns to search for mismanaged companies and thus reduce the likelihood that markets for corporate control and managerial services will cause corporate managers to maximize share values. Auctions also seemingly cannot move corporate assets to their highest valuing users more effectively than unregulated markets do; consequently, they create no efficiency gains to set against the likely efficiency losses flowing from reduced search. Finally, target shareholders are not entitled to a distributional preference respecting takeover gains nor have they property rights to those gains. Thus, there is no moral case for auctions that could take precedence over the efficiency case against them.

Target managers attempt to reduce the likelihood of takeovers by asking their shareholders to approve alterations in the corporate form. Poison pills and shark repellent amendments[41] are becoming common. An obvious next step is to consider their legality. Though such changes in the corporate form reduce the likelihood of takeovers, and so are questionable for the reasons given above, they are adopted by the shareholders; hence, there is a norm of consent to set against the possible efficiency costs of the clauses. This norm should not be regarded as conclusive because contract law may supply reasons not to enforce antitakeover amendments. Contracts sometimes are held substantively unconscionable if they adversely

affect third persons. When some firms adopt poison pills or shark repellent amendments, they reduce the pool of profitable acquisitions that searchers could make, and so reduce the gains to search over all firms. This could disadvantage the shareholders of firms who reject the alternative of altering the corporate form in favor of the discipline that markets can exert on managers, and it also may be inefficient. The existence of externalities traditionally reduces the likelihood that courts will regard party consent as insulating contracts from regulation. Consent also is problematic because possible procedural unconscionability objections to enforcement may exist. If the managers' failure to maximize is inside information, the consent of a target's shareholders to an antitakeover clause may not be fully informed. Further, the managers may propose antitakeover clauses to help ensure job security. Were a corporate structure containing antitakeover clauses part of the initial stock offering of a new firm, that the offer sold implies the meaningful consent of shareholders to the clauses; for potential buyers have a wide choice of investment vehicles and presumably chose the particular firm because it was the best option. But when antitakeover amendments are proposed by the managers of an ongoing company with widely dispersed shareholders, their adoption cannot support an implication of meaningful consent in the same way. Coordination costs among shareholders may prevent effective opposition to the managers.[42]

These considerations cannot alone support a conclusion that

antitakeover amendments should be held unenforceable. As a contervailing argument, if the amendments are significantly disadvantaging to target shareholders enough of them may sell to reduce sufficiently the advantages to the managers of proposing such clauses. That is, the market perhaps could discipline the managers.[43] Also, when a tender offer is made, target shareholders may prefer certain kinds of antitakeover clauses to be enforced for the same reason that they then prefer auctions; the clauses may increase the price paid for their stock. Whether a third party tender offeror can raise contract law objections to defeat the target shareholders' true ex post consent to the amended corporate form is a difficult question. Nevertheless, these objections seem sufficiently serious to suggest the importance of analyzing from a contract law viewpoint the legality of the many recent corporate structure changes that reduce the likelihood of successful takeovers.

FOOTNOTES

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1. See MacDonald, New Directions in the Economic Theory of Agency, 17 Canadian J. Econ. 415 (1984) (reviews agency literature); Rees, The Theory of Principal and Agent: Part I, Discussion Paper #627, Kellogg School of Management, Northwestern University (1984) (same). The agency literature shows that if: (i) agents - the managers - are risk averse; (ii) principals - the shareholders - cannot observe the agents' efforts; (iii) the output to which the principals have a claim is a joint function of the agents' efforts and a state of nature that has a stochastic realization; (iv) the principals also cannot observe the state of nature; but (v) the principals can observe output, then the agents have an incentive to produce less than the principals would regard as optimal and there is no compensation rule for agents, conditioned only on output, that will ensure optimal agent behavior. The difference between how well managers actually do and how well they would do were they to act optimally is

called the "agency cost" of the corporate form.

2. The best statement of this view is Gilson, A Structural Approach to Corporations: The Case Against Defensive Tactics in Tender Offers, 33 Stan. L. Rev. 819 (1981). Most defensive tactics are legal, however. See, e.g., Panter v. Marshall Fields & Co., 646 F.2d 271 (7th Cir. 1981).

3. These requirements are set out in Sections 13 and 14 of the Williams Act, and in SEC Regulation 14E, 17 C.F.R. § 240.14e-1 (1980).

4. See Easterbrook and Fischel, Auctions and Sunk Costs in Tender Offers, 35 Stan. L. Rev. 1 (1982); id., The Proper Role of a Target's Management in Responding to a Tender Offer, 94 Harv. L. Rev. 1161, 1175-80 (1981).

5. The leading academic proponents of the claims about to be summarized are Bebchuk, The Case for Facilitating Competing Tender Offers: A Reply and Extension, 35 Stan. L. Rev. 23 (1982); id., The Case for Facilitating Tender Offers, 95 Harv. L. Rev. 1028 (1982); Gilson, Seeking Competitive Bids Versus Pure Passivity in Tender Offer Defense, 35 Stan. L. Rev. 51 (1982); Lowenstein, Pruning Deadwood In Hostile Takeovers: A Proposal For Legislation, 83 Colum. L. Rev. 249 (1983); see also Coffee, Regulating the Market for Corporate Control: A Critical ASsessment of the Tender Offer's Role In

Corporate Governance, 84 Colum. L. Rev. 1145 (1984) (considers auctions within a broad analysis of corporate governance issues, and argues that the role of markets for corporate control in disciplining managers is overstated).

6. The model is written in narrative form. Important and possibly controversial factual statements are identified by such phrases as "suppose that" or "I assume."

7. The conditions under which markets for contract terms will behave competitively are explored in Schwartz and Wilde, Markets for Contract Terms: The Examples of Warranties and Security Interests, 69 Va. L. Rev. 1387 (1983).

8. In the economics of information a "search good" is one all of whose properties are observable before purchase. An "experience good" is one whose properties cannot be observed except in use. A contract is a search good because a buyer or investor can read it before agreeing to a deal; automobile seat comfort is an experience good because one must buy the car to observe fully the attribute comfort. Goods can have both search and experience aspects -- i.e., appearance and durability.

9. Grossman and Hart, in a very interesting paper, characterize firm and manager behavior roughly similarly to the way the model will do below, but they do not consider search for

mismanaged firms nor do they characterize in detail the managers' utility functions. See Grossman and Hart, Takeover Bids, the Free-Rider Problem, and the Theory of the Corporation, 11 Bell J. Econ. 42, 47-50 (1980).

10. The semi-strong form of the efficient market hypothesis holds that share prices reflect all publically available information about a company. An implication of the hypothesis, for example, is that an investor could not earn positive returns by picking stocks on the basis of annual reports; that information is already reflected in share prices. Positive returns can be earned by trading on insider information, however.

11. The determinants of the premium requisite to induce shareholders to tender are thoughtfully explored in Grossman and Hart, The Allocational Rule of Takeover Bids in Situations of Asymmetric Information, 36 J. Fin. 253 (1981). It is necessary to assume here only that such a premium exists and that potential acquirers can know what it is. These assumptions seem consistent with the frequent use of tender offers.

12. The easiest way to proceed is to suppose that a manager is caught in the period (i-1). Then let $\frac{s^*}{r} = A$ and $\frac{\tilde{s}}{r} - \frac{(\tilde{s} - \bar{s})}{r(1+r)^{i-1}} = B$. Let $r > 0$ and sign $(A - B)$. Collecting terms, $(A - B) = \text{sign}\ [(1+r)^{i-1}\ (s^* - \tilde{s}\ ) + (\ \tilde{s} - \bar{s})]$. Because $s^* -$

$\tilde{s} < 0$, $\tilde{s} - \bar{s} > 0$ and $\tilde{s} - \bar{s} > |s^* - \tilde{s}|$ there exists an r large enough such that sign <0, and there exists an r small enough such that sign >0. Also A-B decreases monotonically with increases in r. The goal is to sign the difference between (1) and (2) above, but

$$(1)-(2) = \sum_{i=1}^{\infty}(1-\chi)^{i-1}\chi(A-B)_i$$

$\exists$ large enough r s.t. (1)-(2)<0

$\exists$ small enough r s.t. (1)-(2)>0.

And (1)-(2) decreases monotonically with increases in r.

13. A golden parachute contract, made between manager and firm, provides the manager with a large sum in the event of job loss from takeover. These contracts have defenders. Some claim they help cause managers not to oppose takeovers. See Charney, Shareholder Coordination Costs, Shark-Repellents and Takeout Mergers: The Case Against Fiduciary Duties, 1983 ABF Res. J. 341, 383 at note 197. Given these contracts' negative incentive effects, it seemingly is preferable just to allow acquirers to buy manager consent ex post. Golden parachute contracts also may reduce manager uncertainty because they insure managers against being fired after "mistaken" takeovers, those motivated by false acquirer beliefs that managers were failing to maximize. Such insurance may help firms to attract good managers. This possible justification for golden parachute contracts is

outside the scope of the formal analysis, which supposed acquirers to bid only when they should, but it also seems unpursuasive. The best way to approach the issue is to ask whether potential investors would regard golden parachute contracts as desirable when they decide whether to buy a firm's shares. Intuition suggests not. An acquirer would make a tender offer (a) to exploit synergy; (b) for investment; (c) to cure mismanagement; or (d) in the mistaken belief that mismanagement occurred. Managers are unlikely to be fired in cases (a) and (b), and will be fired in case (d) only if acquirers routinely fail to learn the facts in time. In case (c), managers are fired with certainty, but they can prevent case (c) from arising. Since target managers have incentives to reveal the true facts to acquirers in case (d), both before and after a takeover, and the market disciplines acquirers that routinely make mistakes, the likelihood that managers will suffer wrongful job loss seems low. If so, the insurance aspects of golden parachute contracts would not be especially important to managers when choosing jobs. Hence, rational investors probably would decide that the positive aspect of these contracts, in attracting better managers, would be outweighed by their negative aspect, in reducing the incentive of managers to maximize. Further, the agency literature seems unanimous in assuming that contracts which condition manager rewards on their own or corporate output offer the best chance of inducing optimal manager behavior. See authorities

cited supra note 1. The recommendation that golden parachute contracts should be banned thus seems sound, though more work on the issue would obviously be helpful. For a view that takeovers seriously threaten target managers with wrongful job loss, see Coffee, supra note 5, at 1234-38.

14. Draws are assumed to be made with replacement. This assumption does not affect the results if the number of firms in N is large, which actually seems to be the case. For simplicity, the analysis also assumes no Baysian updating.

15. Because auctions and defensive tactics are prohibited in this case, $\lambda = 1$ and so is omitted from (4).

16. Participating in an auction is itself costly, so (5) should have a term to reflect this cost. The term is omitted for simplicity because its omission does not affect the results.

17. To say that an investment has zero net present value is only to say that it does not generate a supracompetitive return. For example, in equilibrium an investor could not pay less than $100 to earn $10 a year when interest rates are 10%. Similarly, if a target would be worth p^* per share when correctly run and everyone knew this, no one could buy the target for less than p^*. Ruback studied actual auctions and concluded that "the successful offer price exhausts the potential gains for unsuccessful bidders." Ruback, Assessing

Econ. 141, 152 (1983). This implies that auctions bid target prices to true values. Jarrell also shows that auctions significantly increase the premiums that successful bidders pay. See Jarrell, The Wealth Effects of Litigation By Targets: Do Interests Diverge in a Merge?, 28 J. Law & Econ. 151 (1985).

18. The model could be tested in the laboratory, however. The genre of model from which it has been drawn predicts well in laboratory experiments. See Grether, Schwartz and Wilde, Uncertainty and Shopping Behavior: An Experimental Analysis, S.S. Working Paper #___, California Institute of Technology (1984). Also, the model predicts higher takeover premiums and a lessened frequency of takeovers when auctions are permitted. The advent of the Williams Act, which encouraged auctions, seems positively correlated wtih these outcomes. See Jarrell and Bradley, The Economic Effects of State and Federal Regulation of Cash Tender Offers, 23 J.L. & Econ. 341 (1980).

19. Search equilibrium models that formally include experience goods have not been done. See Schwartz and Wilde, Imperfect Information, Monopolistic Competition and Public Policy, 72 American Econ. Rev. 18 (1982) (reviewing search models).

20. See Baron, An Analysis of Proposed Rules to Limit Resistance to Tender Offers, Working Paper, Stanford University (1982). Barron is concerned with the reaction of target managers after a bid is made. In brief, he supposes a case

where only the managers know the target's true value, the shareholders play no role, the managers can defeat a bid, but they act on the shareholders' behalf in that they resist only bids that fall below the target's true value. To understand his result, let E(g) be the expected gain to a potential acquirer from bidding, π be the profit above cost and a competitive return on investment that the bidder earns if its bid succeeds and p be the probability that the bid succeeds -- i.e., that it equals or exceeds the target's true value. Then, $E(g) = p(\pi \leq 0) + (1 - p)(0)$. The bidder gets the company only if its bid equals ($\pi = 0$) or exceeds ($\pi < 0$) the target's true value; otherwise not because the managers can resist successfully. Since $E(g) \leq 0$, potential bidders have an incentive to bid low or drop out. Therefore, targets have a lower value in the marketplace than they would have were target managers unable to resist, so resistance is against the shareholders' interests. In a later paper, Baron incorporates the idea that managers might prefer to refuse bids not because they are too low but to retain control. If managers are allowed the power to refuse, Baron argues, the value of the firm will be lowered even further because managers with a preference for control would refuse offers as "too low" that managers without the preference would take. Consequently, the incentive of bidders to drop out increases. See Baron, Tender Offers and Management Resistance, 38 J. Fin. 331 (1983).

Coffee believes that firms are experience goods and

bidders make mistakes. If a bidder must pay a high premium, he argues, it will generally bid when it is sure--and likely correct--that the acquisition will generate net gains. Auctions should thus be encouraged because they cause higher premiums. See Coffee, supra note 5, at 1230-33. This argument does not respond to Baron's papers or the arguments the text makes above. Also, markets will discipline systematic bidder error; it seems preferable to rely on them rather than auctions because auctions dampen search.

21. See Levine _____.

22. See authorities cited supra note 5.

23. See R. Brealy and S. Myers, Principles of Corporate Finance 270-71 (1984) (summarizing studies); Gilson and Kraackman, The Mechanisms of Market Efficiency, 70 Va. L. Rev. 549, 551-52 (1984) (same). A useful discussion of recent analyses of anamolies in efficient market theory is Gordon and Kornhauser, Efficient Markets, Costly Information, and Securities Research, manuscript (1984).

24. Grossman and Hart make a similar argument. See Grossman and Hart, supra note 9, at 258-61. Suppose all firms are being run optimally and all shareholders know this. Then each set of shareholders would infer that a takeover bid must be below their firm's true value, because the shareholders would know

that an acquirer could profit from taking over an optimally run firm only if it paid less than the firm was worth. Shareholders who know these things -- who have rational expectations -- would refuse such bids, so they will not be made. Hence, an assumption that takeover bids are made to exploit the existence of undervalued firms contradicts the assumption that shareholders have rational expectations. Takeovers could exist, in Grossman and Hart's world, only if acquirers made some bids to displace inefficient management. Then, shareholders could not infer that all bids were below true target values and so may accept some of them. The text's argument above, in contrast, does not suppose target shareholders to have rational expectations. Rather, it claims the existence of a contradiction between supposing that managers want to maximize share values and that takeover bids will be made; and this contradiction follows from the assumption that bidders and the professional traders who constitute the market have rational expectations -- that both sets of entities will draw the same inferences from factual descriptions of targets.

25. See Bebchuk, The Case for Facilitating Competing Tender Offers: A Reply and Extension, 35 Stan. L. Rev. 23, 30-31 (1982); Gilson, supra note 5, at 53-55. Bebchuk also apparently believes that were the extent of search to be increased over present levels, there would be no increase in "beneficial acquisitions." Id. at 33. He gives no grounds

for believing that we are in the best of all possible worlds except that a fair number of tender offers are now made. This evidence is consistent with the existence of nonmaximizing equilibria.

26. Id. The text next refers to a searcher's two choices. Gilson gives his searcher three but two are used here to put the case most favorably for him.

27. Gilson's example also can be analyzed by using the model in Part I, which allowed a searcher to resell to the auction winner. Unlike my model, Gilson assumes no uncertainty and that the searcher can buy some shares at the market price without paying a premium while the model supposed uncertainty and assumed that the searcher had to pay a premium for every share it acquired. Without uncertainty, Gilson's example is best analyzed by using (4)' and (5)', but altering them to reflect the ability of a searcher to buy α shares at L rather than L + $\emptyset$ and subtracting search costs.

$$(4)'' \quad (\partial - \alpha)Z(p^*-(L+\emptyset)) + \alpha Z(p^*-L) - c(n)$$

$$(5)'' \quad \lambda[(\partial-\alpha)Z(p^*-p')] + \alpha Z(p^*-L) - c(n).$$

Recall that (4)" reflects the gain to a searcher if no auction is held while (5)" includes auctions. In Gilson's example, c(n) = \$2,500,000, L = \$50, $\emptyset$ = \$50, p* = \$120, Z = one million shares, ∂ = 1 (without an auction the searcher buys the whole company), α = .1, λ = 1 without an auction

because no other bidders appear, $\lambda = 0$ with an auction because the searcher causes the auction to occur only if it decides not to buy the company. Then (4)" = $22,500,000 while (5)" = $4,500,000. The formal analysis thus reaches the same result as the text's informal approach: the tender offer strategy wtihout an auction generates a net gain of $18,000,000, which profit maximizing searchers would not refuse.

28. Some firms specialize in discovering information, buying or selling stock on the basis of this information and then releasing the information to the market. It is possible to earn positive returns from this activity, but the activity is irrelevant to takeovers.

29. See, e.g., Bebchuk, supra note 25 at 39-40; Gilson, supra note 5, at 62-63.

30. See Bebchuk, supra note 25, at 41-42; Gilson, supra note 5, at 63. Auctions might have efficiencies were auction costs lower than the cost of resales from successful first bidders to later, higher valuing users. Auction proponents do not make this claim, and it is difficult to know whether the claim would be valid; the relevant costs are hard to measure. Oliver Williamson believes that corporations today are organized into "profit centers" and managed on a decentralized basis. This makes them easier to acquire than

previously, he says, but it also should make new acquisitions relatively easy to sell. See Williamson, Corporate Governance, 93 Yale L.J. 1197, 1224-45 (1984).

31. Easterbrook and Fishel disagree with the claim but do take it seriously. They say the claim cannot be evaluated "at the level of theory" and concede that if "managers ... prefer size to profits, the likelihood of retransfer of assets would be reduced." Easterbrook and Fishel, Auctions and Sunk Costs In Tender Offers, 35 Stan. L. Rev. 1, 14, 15 at n.31 (1982). Their response is that managers prefer profits to size. The text next argues that the size claim can be evaluated at the level of theory, if rational behavior is assumed, and that a preference for size does not necessarily imply a reluctance to resell assets.

32. In a two step merger, an acquirer first buys control of the target and then merges the target into itself. Shareholders who do not tender in the first step can be required by law to sell their shares at the second step -- they are "frozen out" -- and may receive a price lower than the tender offer price. The law referred to in this sentence is thoughtfully summarized in R. Hamilton, Corporation Finance Cases and Materials 557-604, 626-57 (1984). See also Burgman and Cox, Reappraising the Role of the Shareholder in the Modern Public Corporation: Weinberger's Procedural Approach to Fairness in Freezeouts, 1984 Wisc. L. Rev. 593.

33. Bebchuk, supra note 25, at 48.

34. See text at pp. 17-18, supra.

35. The law now makes a limited response to equality claims. An acquirer which wants to purchase less than all of a target's shares must make a pro rata allocation among the shares that are tendered. See 15 U.S.C.A. § 78n(d)(6). The SEC appointed an advisory committee, composed largely of members of the business community, to study takeover regulation. The Committee Report stated: "A fundamental premise of the Committee's recommendations is that all target company shareholders should have an equal opportunity to participate in a tender offer." Consequently, the Committee recommended that initial bids be held open for a sufficiently long period such that auctions could be conducted. See SEC Advisory Committee On Tender Offers, Executive Summary, at xxiii (1983). Perhaps because "equal opportunity" was a "fundamental premise," its meaning and justifications were not explored.

36. See Radin, Property and Personhood, 34 Stan. L. Rev. 957 (1982).

37. See Grey, Property and Need: The Welfare State and Theories of Distributive Justice, 28 Stan. L. Rev. 877 (1976); Michelman, Welfare Rights in a Constitutional Democracy, 1979 Wash. L. Q. 659.

38. Another way to put this point is that it is difficult to defend "procedural norms" persuasively without reference to the substantive outcomes the relevant system generates.

39. See J. Rawls, A Theory of Justice 87-88, 304 (1971).

40. Harsanyi's views are concisely set out and criticized in D. Mueller, Public Choice 247-57 (1979).

41. The term "shark repellent amendment" refers to a variety of changes in a company's charter, by-laws or articles of incorporation to make takeovers more difficult. They include requiring a supermajority vote (75 or 80%) to approve hostile takeover bids, staggering terms of directors so an acquirer cannot remove them all at once, concentrating voting power in a closely held class of common stock and issuing new classes of stock.

42. Gilson makes similar procedural arguments against the enforceability of shark repellent amendments. See Gilson, The Case Against Shark Repellent Amendments: Structural Limitations On the Enabling Concept, 34 Stan. L. Rev. 775 (1982).

43. This suggestion has been pursued by asking whether a firm's stock prices correlate positively or negatively with its adoption of shark repellent amendments. One study found "weak, preliminary support" for the view that managers propose these clauses to entrench their positions; that is, share prices dropped slightly. See DeAngelo and Rice, Antitakeover Amendments and Stockholder Wealth, 11 J. Fin. Econ. 329 (1983). Another study found a positive, though not strong, correlation between share prices and antitakeover amendments, but no such correlation existed for supermajority clauses. See Linn & McConnell, An Empirical Investigation of the Impact of "Antitakeover Amendments" on Common Stock Prices, id. at 361. See especially pp. 379-82 and 384.